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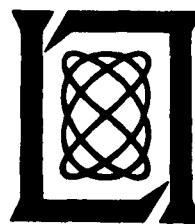
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## Lincoln Laboratory

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

# UNCLASSIFIED PUBLICATIONS OF LINCOLN LABORATORY SUPPLEMENT 2

15 December 1962



1961  
1962

AFESD - TDR - 62-271

UNCLASSIFIED PUBLICATIONS

OF

LINCOLN LABORATORY

SUPPLEMENT 2

15 DECEMBER 1962

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

LINCOLN LABORATORY      LEXINGTON, MASSACHUSETTS

This list of Unclassified Publications of Lincoln Laboratory is the second Supplement to the 15 July 1961 edition, which should be retained until a new cumulative listing is published. Supplement 1, dated 15 April 1962, may now be destroyed.

All Progress Reports, Technical Reports and G-Reports are deposited with ASTIA. All out-of-print unclassified (released) reports are available, as microfilm or photoprint copies, from the M.I.T. Hayden Library. Requests should be addressed to the Microreproduction Laboratory, Hayden Memorial Library, M.I.T., Cambridge 39, Massachusetts, and should cite the serial numbers and prices listed herein.

A Bibliography of Technical Publications, classified CONFIDENTIAL, is available to organizations with established clearances and need-to-know.

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## KEY TO SYMBOLS

- \* Joint report
- † Out of print
- ‡ Partial support under other contract
- R Reprints available
- § Consultant or non-Lincoln author
- H Hayden Library serial number
- M Microfilm
- P Photoprint

QUARTERLY PROGRESS REPORTS

DIVISION 2  
SYSTEMS

	<u>ASTIA No.</u>
15 November 1961	269861
15 February 1962	272957
15 May 1962	275471
15 August 1962	283494
15 November 1962	289815

DIVISION 3  
RADIO PHYSICS

	<u>ASTIA No.</u>
15 January 1962	271953
15 April 1962	275470
15 July 1962	283035
15 October 1962	289814

DIVISION 4  
RADAR

	<u>ASTIA No.</u>
15 February 1962	273507
15 May 1962	276045
15 November 1962	291103

## QUARTERLY PROGRESS REPORTS (Continued)

DIVISION 5  
INFORMATION PROCESSING

	<u>ASTIA No.</u>	<u>Hayden Serial and Prices</u>		
† 15 September 1959	231801	H-223	M\$ 1.50	P\$ 25.30
† 15 December 1959	233920	H-139	1.50	24.10
† 15 March 1960	237551	H-126	1.50	24.40
15 June 1960	242284			
15 September 1960	247050			
15 December 1960	252199			
† 15 March 1961	256371	H-443	1.50	12.65
† 15 June 1961	260633	H-442	1.50	13.90
† 15 September 1961	263607	H-441	1.50	4.90
† 15 December 1961	268698	H-450	1.50	3.90
† 15 March 1962	273508	H-440	1.50	4.65
† 15 June 1962	277562	H-439	1.50	5.15
† 15 September 1962	285165	H-438	1.50	7.40
15 December 1962				

QUARTERLY PROGRESS REPORTS (Continued)

DIVISION 7  
ENGINEERING DESIGN AND TECHNICAL SERVICES

	<u>ASTIA No.</u>		<u>ASTIA No.</u>
15 November 1952	6517	15 January 1956	95753
15 February 1953	11806	15 April, 15 July,	
15 May 1953	17084	15 October 1956	13605
15 August 1953	20379	15 January 1957	13606
15 November 1953	25815	15 April 1957	147497
15 April 1954	33860	15 July 1957	151240
15 July 1954	39058	15 October 1957	110031
15 October 1954	50617	15 January 1958	110048
15 January 1955	64031	15 April 1958	133859
15 April 1955	68882	15 July 1958	303131
15 July 1955	72814	15 October 1958	304361
15 October 1955	83347	15 January 1959	305154

DIVISION 7  
ENGINEERING

	<u>ASTIA No.</u>		<u>ASTIA No.</u>
15 April 1959	222823	15 April 1961	258076
15 July 1959	222824	15 July,	
15 October 1959	315534	15 October 1961	274523
15 January 1960	315680	15 January 1962	270736
15 April 1960	317928	15 April 1962	280714
15 July 1960	319819	15 July 1962	282389
15 October 1960	249920	15 October 1962	287558
15 January 1961	253840		

QUARTERLY PROGRESS REPORTS (Continued)

DIVISION 8  
SOLID STATE

	<u>ASTIA No.</u>	<u>Hayden Serial and Prices</u>		
15 January 1962	270511			
15 April 1962	281678	H-399	M\$ 1.50	P\$ 3.15
15 July 1962	282145	H-416	1.50	2.15
15 October 1962	287199	H-435	1.50	4.40

SOLID STATE RESEARCH

	<u>ASTIA No.</u>	<u>Hayden Serial and Prices</u>		
† 1 November 1957	110024	H-5	M\$ 1.50	P\$ 34.05
† 1 February 1958	110037	H-14	1.50	29.70
† 1 May 1958	133853	H-13	1.60	33.70
† 1 November 1958	204401	H-7	1.80	38.50
† 15 January 1959	215804	H-20	1.60	39.40
† 15 April 1959	214567	H-45	1.95	31.00
† 15 July 1959	226851	H-22	1.60	34.60
† 15 October 1959	231991	H-44	2.05	38.20
† 15 January 1960	234915	H-64	1.50	29.50
† 15 April 1960	239537	H-119	1.50	16.90
† 15 July 1960	243927	H-168	1.50	18.40
15 October 1960	249058	H-360	1.50	10.65
15 January 1961	254036	H-279	1.50	16.90
15 April 1961	257442	H-305	1.50	12.15
15 July 1961	262282	H-331	1.50	13.65
15 October 1961	266878	H-360	1.50	10.65

SOLID STATE RESEARCH  
LINCOLN LABORATORY

	<u>ASTIA No.</u>	<u>Hayden Serial and Prices</u>		
1961, No. 4	274072	H-391	M\$ 1.50	P\$ 22.40
1962, No. 1	277393	H-406	1.50	13.40
1962, No. 2	285456	H-428	1.50	12.15
1962, No. 3	291546			

SEMIANNUAL TECHNICAL SUMMARY REPORTS  
TO ADVANCED RESEARCH PROJECTS AGENCY

		<u>ASTIA No.</u>	<u>Hayden Serial and Prices</u>
<b>Reentry Physics Program</b>	† 1 Oct. 1958 to 30 June 1959	228431	H-125 M\$1.50 P\$38.80
	†31 Dec. 1959	234627	H-127 M\$1.50 P\$22.00
	30 June 1960	241226	H-269 M\$1.50 P\$10.30
	†31 Dec. 1960	252669	H-276 M\$1.50 P\$11.80
<b>Reentry Physics &amp; Project PRESS Programs</b>	†30 June 1961	262543	H-361 M\$2.65 P\$35.90
	31 Dec. 1961	273072	H-453 M\$2.05 P\$48.15
	30 June 1962	283478	H-454 M\$1.80 P\$37.90
<b>High-Power Tube Program</b>	31 Dec. 1959	234064	
	30 June 1960	241412	
	31 Dec. 1960	250687	
	30 June 1961	260544	
	†31 Dec. 1961	270734	
	†30 June 1962	278675	
<b>Radar Techniques Study</b>	31 Dec. 1959	234063	
	30 June 1960	241910	
	31 Dec. 1960	251040	

## TECHNICAL REPORTS

TR No.				ASTIA No.	Hayden Serial and Prices
† 7	Noise-Like Signals and Their Detection by Correlation	B. L. Basore	26 May 1952	4641	
†† 24	Automatic-Alarm Radar for PROJECT COUNTER CHANGE (Final Technical Report)	H. G. Weiss F. R. Naka J. Freedman W. P. Harris J. W. Meyer J. F. Bennett	4 Aug. 1953	20233	
*† 34	Statistical Theory Applied to Communication through Multi-path Disturbances	R. Price	3 Sept. 1953	28497	H-374 M\$ 1.50 P\$ 10.65
† 56	Comparative Performance of 10-cm and 70-cm Radar Over the Sea	J. Freedman M. M. Kessler V. L. Lynn D. A. McKee W. W. Ward	25 Aug. 1954	42667	
72	Characteristics and Capabilities of Automatic Alerting Radar X-3	H. G. Weiss F. R. Naka	15 Oct. 1954	55745	
† 82	A Bistatic CW Radar	E. A. Sloane E. S. Candidus J. Salerno M. Skolnik	6 June 1955	76454	
83	18-Mcps Field-Strength Measurements Over Sea Water	S. J. Fricker R. P. Ingalls W. T. Quinn M. L. Stone C. A. Stutt	14 June 1955	76455	
86	Project Caterpillar Antenna Measurements	S. J. Fricker R. P. Ingalls W. T. Quinn M. L. Stone C. A. Stutt	22 Dec. 1955	92635	
119	Some Experiments with Three-Pulse Cancellation and with Sweep Integration	J. J. G. McCue	8 June 1956	103579	
170	A 64-Pole RF Coaxial Switch	L. J. Ricardi B. F. LaPage	3 Jan. 1958	110035	
178	Elimination of a Type of Natural Clutter in L-Band Radars	R. E. Richardson J. M. Stacey H. M. Kohler F. R. Naka	15 Apr. 1958	133851	
185	Final Engineering Report on Parabolic Torus Antenna System	L. J. Ricardi M. E. Devane	7 Aug. 1958	222288	

TECHNICAL REPORTS (Continued)

TR No.			ASTIA No.	Hayden Serial and Prices
186	Radio Refraction in a Cool Exponential Atmosphere	J. R. Bauer W. C. Mason F. A. Wilson	27 Aug. 1958	202331 H-344 M\$ 1.50 P\$ 6.15
228	Phased Array Radar Studies, 1 July 1959 to 1 July 1960	J. L. Allen W. W. Camp L. Cartledge W. P. Delaney J. Dibartolo, Jr. M. Siegel S. Spoerri J. H. Teele D. H. Temme	12 Aug. 1960	249470 H-335 M\$ 3.00 P\$ 61.65
236	Phased Array Radar Studies, 1 July 1960 to 1 July 1961	J. L. Allen L. Cartledge W. P. Delaney E. A. Davidson J. DiBartolo A. J. Fallo W. J. Ince M. Siegel J. R. Sklar S. Spoerri J. H. Teele D. H. Temme	13 Nov. 1961	271724
241	GENDARE (A Generalized Data Reduction System)	M. M. Marill J. B. Williams, Jr.	22 Jan. 1962	284041
246	A Threshold Theory for Phase-Locked Loops	H. L. VanTrees	22 Aug. 1961	266951
247	A Solid State Memory System Utilizing Impulse Switching of Ferrite Cores	V. J. Sferrino	22 Sept. 1961	264998
248	Application of the Resonant Cavity Method to the Measurement of Electron Densities and Collision Frequencies in the Wakes of Hypervelocity Pellets	M. Labitt M. A. Herlin	17 Oct. 1961	265867
249	Cyclotron Resonance and Magneto-Optical Effects in Semiconductors	B. Lax J. Halpern	30 Apr. 1962	278081
251	The DICON System	R. S. Berg D. B. Eshleman J. N. Harris R. M. Horowitz I. L. Lebow W. H. Long N. J. Morrisson, Jr. F. Nagy, Jr. N. L. Daggett, Editor	31 Oct. 1961	267536

## TECHNICAL REPORTS (Continued)

TR No.				ASTIA No.	Hayden Serial and Prices
252	Elementary Lattice Theories and Their Application to Gas Adsorption Phenomena	J. M. Honig	11 Dec. 1961	269570	
253	Precision Frequency Control of a High-Power Millimeter Klystron	C. M. Steinmetz	3 Jan. 1962	273509	
254	Ferro- and Antiferromagnetism in a Cubic Cluster of Spins	G. F. Dresselhaus	11 Jan. 1962	273950	
255	A Diplexer Using Hybrid Junctions	L. J. Ricardi	7 Feb. 1962	274524	
256	Radio-Echo Observations of the Moon at 3.6-cm Wavelength	J. V. Evans	19 Feb. 1962	274669	
257	Secondary Emission Characteristics of High-Power Microwave-Tube Surfaces	A. Vierstra R. C. Butman	20 Feb. 1962	282311	
258	Error Probabilities for Adaptive Multichannel Reception of Binary Signals	R. Price	23 July 1962	284651	
259	The West Ford Antenna Feed System	L. Niro	5 Mar. 1962	282311	
261	Statistical Mechanical Theory of Magnetic Resonance	P. L. Kelley	1 May 1962	274740	
263	The COBI Data Transmission Modem	K. H. Morey	23 May 1962	277501	
264	A More Precise Analysis of Multi-Cavity Klystrons I. Solutions of the Boundary-Value Problem	R. L. Pease	28 Mar. 1962	275469	
265	Mass Spectrographic Lines of the Elements	E. B. Owens A. M. Sherman	3 Apr. 1962	275468	
266	Electromagnetic Studies of Ionized Wakes	E. L. Murphy S. Edelberg G. F. Pippert	20 Apr. 1962	282309	
267	Magnetism and Crystal Structure in Nonmetals	J. B. Goodenough	24 Apr. 1962	284300	
268	Calculation of the Surface Temperature of a Solid under Electron Bombardment	G. E. Vibrans	16 Nov. 1962		

**TECHNICAL REPORTS (Continued)**

<b>TR No.</b>			<b>ASTIA No.</b>	<b>Hayden Serial and Prices</b>
269	The Preparation and Properties of Some Vanadium Spinels	D. B. Rogers	25 May 1962	282542
270	State Assignment Algorithm for Clocked Sequential Machines	M. I. Schneider	25 May 1962	286784
272	Radio-Echo Observations of the Moon at 68-cm Wavelength	J. V. Evans	22 June 1962	291102
273	Scattering of Electromagnetic Waves by an Eaton Lens	J. Rheinstein	28 June 1962	289380
274	Studies of the F-Region by the Incoherent Backscatter Method	J. V. Evans	24 July 1962	
275	RF Component Development for the DICON System	R. S. Berg B. Howland	3 Aug. 1962	291780
276	The El Campo Solar Radar Antenna	M. E. Devane A. R. Dion	17 Aug. 1962	292173
277	A Luneburg Lens as a Passive Reflector for Satellite Communication	R. N. Assaly	21 Aug. 1962	291781
278	The FX-1 Magnetic Film Memory	J. I. Raffel A. H. Anderson H. Blatt T. S. Crowther T. O. Herndon	27 Aug. 1962	292172
279	Studies in Search for a Conscious Evader	R. C. Norris	14 Sept. 1962	
281	A Quantitative Examination of the Radar Resolution Problem	J. L. Allen	17 Sept. 1962	
283	A Data Processing Formalism	A. W. Armenti B. J. Schafer J. M. Winett	6 Nov. 1962	
284	Scattering from Density Fluctuations in a Plasma (Scattering and Absorption Cross Section)	M. S. Macrakis	22 Oct. 1962	291779
285	The Resistance of Bats to Jamming	D. R. Griffin\$ J. J. G. McCue A. D. Grinnell\$	23 Oct. 1962	
286	The Measurement of Small-Signal Parameters of Transistors at VHF	B. L. Diamond	14 Nov. 1962	

TECHNICAL REPORTS (Continued)

TR No.

ASTIA  
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and  
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287	Incoherent Scattering from a Plasma: I. The Electronic Spectrum; II. The Ion-Carried Spectrum	M. S. Macrakis	22 Oct. 1962
288	Radio-Echo Studies of the Moon at 7.84-Meter Wavelength	J. V. Evans R. P. Ingalls	20 Nov. 1962
289	Optimum Incorporation of External Observations with a Marine Inertial Navigation System	D. J. Sakrison	30 Nov. 1962

**G-REPORTS (Continued)**

No.				ASTIA No.	Hayden Serial and Prices
22G-1	Movement of Military Centers as Safeguard Against Nuclear Attack, Part II	J. H. Halberstein	12 June 1962	285044	H-427 M\$ 1.50 P\$ 15.15
22G-2	Methods for the Adaptive Optimization of Binary Detection Systems	H. J. Kushner	9 Nov. 1962	290741	H-448 M\$ 1.50 P\$ 14.90
22G-3	Partial Differential Equations: First-Order Theory in One Dependent Variable - Deterministic Case	P. L. Falb	27 Nov. 1961	268122	H-368 M\$ 1.50 P\$ 6.90
22G-4	On Optimal Linear Control Systems Which Minimize the Time Integral of the Absolute Value of the Control Function (Minimum-Fuel Control Systems)	M. Athanassiades	10 May 1962	276881	H-404 M\$ 1.50 P\$ 23.65
22G-5	Newtonian Drag Coefficients and Weights for Blunted Cone-Spheres at Small Angles of Attack	A. Freed	30 Mar. 1962	275055	H-398 M\$ 1.50 P\$ 6.90
22G-6	The Local Behavior of Circular Orbits	F. C. Scheppe	23 Feb. 1962	272869	H-380 M\$ 1.50 P\$ 4.90
22G-7	A Model for the Study of Communications Degradation	K. M. Sayre	29 Mar. 1962	274739	H-397 M\$ 1.50 P\$ 17.65
22G-8	Time-Optimal Velocity Control of a Spinning Space Body	M. Athanassiades P. L. Falb	6 Sept. 1962	284207	H-422 M\$ 1.50 P\$ 11.40
25G-0035	Specifications for a COBI Data Transmission Modem	E. J. Hofmann	18 July 1961	261546	H-327 M\$ 1.50 P\$ 13.15
25G-0037	Error Statistics of A-1 Digital Data Signaling Equipment over Various Media	P. L. Grant	15 Sept. 1961	264332	H-348 M\$ 1.50 P\$ 31.40
25G-1	A Lower Bound for the Sum of Independently Distributed Continuous Random Variables	B. Reiffen	27 Oct. 1961	266826	H-357 M\$ 1.50 P\$ 2.90
25G-2	Sequential Decoding for Binary Channels with Noise and Synchronization Errors	R. G. Gallager	27 Oct. 1961	266879	H-356 M\$ 1.50 P\$ 8.65
25G-3	Applicability of Coding to Radio Teletype Channels	A. B. Fontaine	27 Oct. 1961	266827	H-355 M\$ 1.50 P\$ 4.40

**G-REPORTS**

No.				ASTIA No.	Hayden Serial and Prices
21G-0006	Primary Recording Instrumentation for Re-entry Physics Program	E. J. Peters	20 Feb. 1961	263517	H-342 M\$ 1.50 P\$ 18.90
21G-0017	Anelex Printout System for Reentry Physics Program	E. J. Peters	21 Aug. 1961	263249	H-336 M\$ 1.50 P\$ 8.65
21G-0022, Suppl. 1	Revision of West Ford TTY Checking Program	J. D. Drinan	2 Aug. 1962	283778	
21G-0024, Suppl. 1	West Ford Primary Print Program	J. D. Drinan	2 Aug. 1962	286367	
21G-0029	Reliability of Redundant Computers	R. Teoste	22 Mar. 1961	260494	H-321 M\$ 1.50 P\$ 21.15
21G-0031	Specification for West Ford Pointing Program	F. E. Heart	10 July 1961	261181	H-326 M\$ 1.50 P\$ 6.40
21G-8001	Some Reliable Redundant Circuits	R. Teoste	7 June 1962	284793	H-423 M\$ 1.50 P\$ 7.65
21G-1	Programmed Satellite Pass Calculations	A. A. Mathiasen	28 June 1962	282041	H-414 M\$ 1.50 P\$ 14.90
21G-2	Project 861 Computer Programming System; Mathematical Analysis for Computation of Radar Pointing Data	Group 21	14 Sept. 1962	286547	H-434 M\$ 1.50 P\$ 13.15
21G-3	Project 861 Computer Program System; Auxiliary Programs and Techniques	J. D. Drinan A. A. Mathiasen	6 Sept. 1962	285046	H-426 M\$ 1.50 P\$ 6.90
21G-4	Project 861 Orbit Programs	A. A. Mathiasen W. R. Crowther	31 Aug. 1962	285045	H-425 M\$ 1.50 P\$ 14.40
21G-6	Project 861 Computer Program System; Pointing Program Notes	D. M. Hafford	27 Nov. 1962	290802	H-455 M\$ 1.50 P\$ 4.65
21G-7	Project 861 Computer Program System; Venus Pointing Data	J. D. Drinan	19 Nov. 1962	291230	H-459
22G-0071	Movement of Military Operations-Centers or Other Military Installations as Safeguard Against Nuclear Attack	J. H. Halberstein	14 May 1961	259667	H-317 M\$ 1.50 P\$ 8.15

**G-REPORTS (Continued)**

No.				ASTIA No.	Hayden Serial and Prices
25G-4	Experiments in the Improvement of the Impulse Response of Telephone Circuits	H. L. Yudkin	27 Nov. 1961	269557	H-373 M\$ 1.50 P\$ 7.90
25G-5	Automatic Error-Detection System for Toll-Grade Telephone Circuit Data Transmission	W. G. Schmidt	27 Nov. 1961	268128	H-367 M\$ 1.50 P\$ 7.90
25G-6	Matching and Error Counter	L. Staaf E. J. Hofmann	5 Dec. 1961	268704	H-369 M\$ 1.50 P\$ 5.65
25G-7	Semi-Automatic RANDWORD Printed Circuit Tester	C. A. Hoover	27 Nov. 1961	268703	H-370 M\$ 1.50 P\$ 8.40
25G-8	COBI Data Transmission Testing in the United Kingdom	P. L. Grant	27 Mar. 1962	275152	H-400 M\$ 1.50 P\$ 6.90
25G-9	Transmission Testing on Alaskan Forward-Propagation Tropospheric Scatter Circuits	P. L. Grant	29 May 1962	282040	H-413 M\$ 1.50 P\$ 14.40
25G-10	Revised RANDWORD Circuitry and Circuit Characteristics	W. G. Schmidt	21 Aug. 1962	289379	H-447 M\$ 1.50 P\$ 21.90
26G-1	Uniform Oscillations from Infrared Masers (12 September 1961)	J. R. O'Connor H. A. Bostick D. B. Barker\$	8 Jan. 1962	270662	H-376 M\$ 1.50 P\$ 3.15
28G-1	A Note on the Multiple Zeros of Random Polynomials	J. C. Fogarty J. Max	31 Aug. 1962	283777	H-420 M\$ 1.50 P\$ 4.90
30G-0014	Distribution of Electrons in the F Region	J. V. Evans	15 Sept. 1961	263902	H-345 M\$ 1.50 P\$ 9.90
30G-2	Radar Cross-Section Observations of the Echo I Communications Satellite	D. P. Hynek	19 Feb. 1962	274065	H-393 M\$ 1.50 P\$ 24.15
33G-1	Programming for the Group 33 Analog-to-Digital Conversion System	R. P. Ingalls W. C. Mason	9 July 1962	282042	H-415 M\$ 1.50 P\$ 13.65
34G-1	A Critique of Wilcox's Method of Ambiguity Function Synthesis	W. S. Widnall	28 Nov. 1961	267537	H-366 M\$ 1.50 P\$ 3.15
34G-2	The Detection and Identification of Underground Nuclear Explosions: A Study	G. L. Turin	2 Mar. 1962	273825	H-389 M\$ 1.50 P\$ 9.40

**G-REPORTS (Continued)**

No.				ASTIA No.	Hayden Serial and Prices
34G-3	The Effect of Approximation Errors in a General Class of Matched Filter Detectors	M. J. Levin	13 Feb. 1962	272757	H-379 M\$ 1.50 P\$ 4.40
34G-4	Maximum-Likelihood Estimation of the Correlation Function of a Threshold Signal, and Its Application to the Measurement of the Target Scattering Function in Radar Astronomy	R. Price	25 May 1962	276903	H-403 M\$ 1.50 P\$ 8.90
34G-5	Instantaneous Spectra and Ambiguity Function	M. J. Levin	2 Mar. 1962	273239	H-386 M\$ 1.50 P\$ 3.15
34G-6	Estimation of Doppler Shift and Spectral Width of a Random Process	M. J. Levin	12 June 1962	278686	H-409 M\$ 1.50 P\$ 4.40
34G-7	Estimation of the Second-Order Statistics of Randomly Time-Varying Linear Systems	M. J. Levin	2 Nov. 1962	289607	H-445 M\$ 1.50 P\$ 11.40
34G-8	The Estimation of a Pulse Transfer Function in the Presence of Noise	M. J. Levin	9 July 1962	282043	H-412 M\$ 1.50 P\$ 5.65
34G-10	Upper Bound to the Capacity of a Linear Time-Varying Channel with Additive Gaussian Noise	G. D. Forney, Jr.	26 Sept. 1962	287453	H-437 M\$ 1.50 P\$ 5.40
35G-2	Kinetic Theory Description of the Initial Expansion of a Gas Cloud	G. Bienkowski\$	2 Nov. 1962	290491	H-446 M\$ 1.50 P\$ 13.40
36G-1	The Influence of Terrain Shielding on Radio Wave Propagation at 8000 Mcps	W. E. Morrow, Jr. D. Karp R. V. Locke, Jr. W. C. Provencher	20 Nov. 1962	290511	H-452 M\$ 1.50 P\$ 2.40
36G-2	Microwave Cross Section of Thin Dipoles	C. L. Mack, Jr.	15 Nov. 1962	291231	H-458
312G-0004	200 MC Beacon Tracking System for Reentry Physics	E. F. Tarbox	14 Sept. 1961	264325	H-347 M\$ 1.50 P\$ 6.65
312G-0006	AC and Impulse Switching Techniques for Use with Magnetic Memories	R. E. McMahon	26 June 1961	259503	H-319 M\$ 1.50 P\$ 7.65
312G-1	Flashing Light Encoders	L. A. Jacobson	27 Nov. 1961	269588	H-372 M\$ 1.50 P\$ 6.15

**G-REPORTS (Continued)**

No.				ASTIA No.	Hayden Serial and Prices
312G-3	On the Turbulent Far-Wake in Incompressible Axial-Symmetric Flow	A. W. K. Metzner	15 Nov. 1961	266943	H-362 M\$ 1.50 P\$ 6.40
312G-4	Scattering from a Homogeneous Plasma Cylinder of Infinite Length	C. M. deRidder L. G. Peterson	15 Jan. 1962	274067	H-392 M\$ 1.50 P\$ 25.40
312G-5	Three-Degrees-of-Freedom Trajectory Analysis Program	K. Kresa P. A. Willmann	30 Jan. 1962	273134	H-384 M\$ 1.50 P\$ 7.90
312G-7	Optical Observations of Lincoln Laboratory Hypersonic Re-entry Vehicles Trailblazers Ic and Id	F. A. Wilson J. R. Bauer	16 May 1962	283416	H-418 M\$ 1.50 P\$ 12.15
312G-9	Linearized Theory of Homogeneous Turbulence in a Compressible Fluid	A. W. K. Metzner	7 June 1962	278439	H-407 M\$ 1.50 P\$ 10.40
312G-10	Sources of Error in Microwave Transmission Measurement of Ionized Trails	C. Bressel G. H. Price	3 July 1962	283563	H-419 M\$ 1.50 P\$ 19.90
315G-1	Near-Field Characteristics of Array Antennas	L. J. Ricardi W. C. Danforth, Jr. M. H. Malone	17 Oct. 1961	266428	H-354 M\$ 1.50 P\$ 14.90
315G-2	A Mechanically Fixed Radar Antenna with Scanning Capability	L. J. Ricardi R. N. Assaly W. C. Danforth, Jr.	16 Oct. 1961	266048	H-353 M\$ 1.50 P\$ 7.15
315G-3	A Mechanical Duplexer for High-Powered X-Band Radars	B. F. LaPage	8 Dec. 1961	271400	H-377 M\$ 1.50 P\$ 11.65
41G-0009	A Method of Signal Design Employing Saddle Point Integration	R. D. Haggarty	19 May 1961	258617	H-312 M\$ 1.50 P\$ 5.90
41G-0011	On Entire Functions and a Fourier Integral Problem	J. A. Sheehan	5 July 1961	259568	H-314 M\$ 1.50 P\$ 4.90
41G-0012	An RF Multiple Beam Forming Technique	W. P. Delaney	9 Aug. 1961	262017	H-334 M\$ 1.50 P\$ 23.15
41G-0014	Some Recent Strip Transmission Line Measurements, Formulae, Techniques and Components for Phased Array Radar	D. H. Temme	19 Sept. 1961	264324	H-346 M\$ 1.50 P\$ 8.40

**G-REPORTS (Continued)**

No.				ASTIA No.	Hayden Serial and Prices
41G-1	Operational Characteristics of 16 Electron-Beam Parametric Amplifiers in a 900 Mcps Phased Array	J. H. Teele	6 Aug. 1962	288223	H-444
42G-1	Commentary on a Paper by Kuklev Concerning the Influence of Noise on a Decoding Unit Using a Pulse Code Group	D. Middleton\$	28 Dec. 1961		H-436 M\$ 1.50 P\$ 14.40
42G-2	Phase Shifting to Avoid Interference Regions Between Antenna Elements	B. H. Labitt	23 May 1962	277561	H-395
45-34	Notes on MTI Simulation Techniques	J. W. McGinn, Jr.	7 Oct. 1958	256978	H-322 M\$ 1.50 P\$ 4.40
45-34-1	Notes on MTI Simulation Techniques - Part II	J. W. McGinn, Jr.	29 Mar. 1959	256979	H-323 M\$ 1.50 P\$ 5.40
46G-0006	The High Frequency Low Pressure Discharge	H. S. Bennett	24 Aug. 1961	262240	H-339 M\$ 1.50 P\$ 9.40
46-0012	Evaluation of Three Microwave Densiometers	S. J. Miller F. I. Sheftman	21 July 1961	260947	H-325 M\$ 1.50 P\$ 2.40
46G-0013	Some Equilibrium Properties of Elemental Superconductors	J. Fineman	31 July 1961	261866	H-329 M\$ 1.50 P\$ 14.40
46G-1	Amplitude and Phase Deviation in Waveguides with Shunt Devices	A. H. Kessler	8 June 1962	285628	H-430 M\$ 1.50 P\$ 17.15
47-19	Computer Simulation of the Pure-Phase Periodogram and the Doppler Phase Difference Integrator	S. F. Catalano E. J. Jones	12 Sept. 1958	261365	H-332 M\$ 1.50 P\$ 2.65
47G-0010 (Rev. 1)	An Ultrasonic Receiver for Detecting Signals of Bats	A. Bertolini	5 Dec. 1961	268702	H-371 M\$ 1.50 P\$ 9.90
47G-0022	Quaternary Cyclic Codes	G. Solomon	13 Sept. 1961	263608	H-341 M\$ 1.50 P\$ 4.90
47G-0023	AFC for Discrete Frequencies	T. J. Rey	19 May 1961	259479	H-316 M\$ 1.50 P\$ 7.40

**G-REPORTS (Continued)**

No.				ASTIA No.	Hayden Serial and Prices
47G-0026	A Method for Finding Output Probability Densities	R. P. Wishner	20 June 1961	258918	H-311 M\$ 1.50 P\$ 4.40
47G-0027	Distribution of the Normalized Periodogram Detector	R. P. Wishner	26 June 1961	259478	H-315 M\$ 1.50 P\$ 7.90
47G-1	A Weight Formula for Group Codes	G. Solomon	9 Oct. 1961	264999	H-349 M\$ 1.50 P\$ 3.15
47G-2	Application of Statistical Estimation Procedures to the Identification Problem	R. P. Wishner J. C. Lindenlaub	3 Nov. 1961	266877	H-358 M\$ 1.50 P\$ 6.40
47G-3	The Design of Semiconductor-Diode Detector Circuits	G. R. Curry M. Axelbank	28 Feb. 1962	273510	H-388 M\$ 2.20 P\$ 43.65
47G-4	The Covariance Functions of Sine and Cosine Processes	J. W. McGinn, Jr.	26 Feb. 1962		H-382 M\$ 1.50 P\$ 6.65
48G-1	Measurement of Field Strength on Resonator Boundaries by the Perturbation of Radiation Field	I. Hefni	8 Feb. 1962	274066	H-394 M\$ 1.50 P\$ 8.65
51G-2	Automatic Memory Array Production System	C. G. Ryan	28 Feb. 1962	273238	H-385 M\$ 1.50 P\$ 7.15
51G-3	Deposited Connections and Wiring	E. A. Guditz	7 Sept. 1962	286545	H-431 M\$ 1.50 P\$ 14.40
52G-1	A Solid State Buffer-Memory System to Handle Randomly Transmitted Information	R. M. Horowitz	13 Feb. 1962	273785	H-390 M\$ 1.50 P\$ 6.40
52G-2	Statistical Properties of the Dicon Receiver	J. A. Dumanian	2 Mar. 1962	275278	H-401 M\$ 1.50 P\$ 8.65
52G-3	Instructions for the Use of Mutual Moon Visibility Charts	F. Nagy	7 June 1962	276879	H-405 M\$ 1.50 P\$ 2.90
52G-4, Part I	Foundations of a Theory of Algebraic Codes. Part I: Local Theory	S. S. Shatz\$	20 Sept. 1962	286548	H-432 M\$ 1.50 P\$ 5.90

**G-REPORTS (Continued)**

No.				ASTIA No.	Hayden Serial and Prices
52G-4, Part II	Foundations of a Theory of Algebraic Codes. Part II: Global Theory	S. S. Shatz\$	20 Sept. 1962	286546	H-433 M\$ 1.50 P\$ 6.40
52G-5	The Descendent Theorem in Abelian Groups	S. S. Shatz\$	16 Nov. 1962	290801	H-456 M\$ 1.50 P\$ 2.90
53G-0063	Surface Anisotropy Energy Density of a Ferromagnet	R. F. Soohoo	18 Aug. 1961	261588	H-333 M\$ 1.50 P\$ 2.90
53G-0064	A Microwave Magnetic Microscope	R. F. Soohoo	23 Aug. 1961	262542	H-324 M\$ 1.50 P\$ 2.90
53G-0065	Ferromagnetic Resonance in Yttrium Iron Garnet Film	R. F. Soohoo	28 Aug. 1961	262945	H-338 M\$ 1.50 P\$ 1.65
54G-0029	A 6-Symbol 6-State Universal Turing Machine	M. Minsky	12 Apr. 1961	259727	H-318 M\$ 1.50 P\$ 4.40
55G-1	A Survey of Functional Integration with Applica- tions of the Wiener Integral	T. I. Seidman	16 Oct. 1961	265200	H-350 M\$ 1.50 P\$ 15.15
55G-2	An Acquirable Code	E. Weiss D. Gorenstein\$	9 July 1962	281751	H-411 M\$ 1.50 P\$ 2.90
58G-0024	Information Processing Language V (IPL-V) Special Procedures for the Lincoln 709/7090 Version	B. F. Green, Jr. A. Wolf	14 Aug. 1961	261867	H-330 M\$ 1.50 P\$ 11.40
*71G-2	A Theoretical Analysis and Experimental Study of the Behavior of Panels of Isotropic and Orthotropic Material Under Static and Dynamic Loads	H. A. Balmer\$ E. A. Witmer\$ W. A. Loden\$	Feb. 1962	273137	H-383 M\$ 2.05 P\$ 33.65
71G-3	Dynamic Buckling of Space Frame Radome Models	R. A. Muldoon	15 Feb. 1962	273237	H-387 M\$ 1.50 P\$ 18.90
71G-4	Preliminary Investigations on the Mechanical Design of Hardened Foam Radomes	R. A. Muldoon	3 May 1962	275713	H-402 M\$ 1.50 P\$ 10.65
71G-5	Air Loads and Pressure Distribution on a Parabolic Antenna Model	J. Bicknell\$ R. Yeghiyan\$	30 Oct. 1962	290512	H-451 M\$ 1.50 P\$ 23.15

**G-REPORTS (Continued)**

No.				ASTIA No.	Hayden Serial and Prices
84G-1	Broadening in the Master Equation	P. L. Kelley	25 Oct. 1961	266360	H-352 M\$ 1.50 P\$ 6.40
82G-0029	Determination of Magneto-elastic Coupling by Spin Wave Resonance	M. H. Seavey, Jr.	31 July 1961	261601	H-328 M\$ 1.50 P\$ 6.40
82G-1	100 Kcps Modulation Paramagnetic Resonance Spectrometers for Centimeter and Millimeter Wavelengths	W. H. From E. D. Mills	26 Apr. 1962	282039	H-410 M\$ 1.50 P\$ 9.90
85G-0011	Free Carrier Faraday and Voight Effects for a Cubic Crystal with a Pb-Te Like Band Structure	J. Halpern	25 Aug. 1961	262923	H-337 M\$ 1.50 P\$ 9.40

**REPORTS PREPARED FOR LINCOLN LABORATORY**

			<u>ASTIA No.</u>	<u>Hayden Serial and Prices</u>
A Method to Study the Static and Dynamic Behavior of a Radome Panel, LL-VII-22	MIT Aeroelastic and Structures Research Laboratory	Aug. 1960	246187	H-211 M\$ 1.50 P\$ 13.60
Survey of Hypervelocity Impact Information ASRL Report No. 99-1, LL-II-60	MIT Aeroelastic and Structures Research Laboratory	Sept. 1961	267289	H-363 M\$ 3.50 P\$ 62.90
Survey of Hypervelocity Impact Information, Addendum ASRL Report No. 99-1, Add. LL-II-60	MIT Aeroelastic and Structures Research Laboratory	Sept. 1961	267289	H-364 M\$ 2.40 P\$ 47.90

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JA No.			
1506A	Concerning Hybrids	C. W. Jones	Microwave J. <u>4</u> , No. 10, 98 (1961)
1511 R	Length of Series and the Learning Curve	N. C. Waugh	Am. J. Psychol. <u>75</u> , 177 (1962)
1573	Magnetic Properties of Perovskites	J. B. Goodenough	Accepted Vol. II of <u>Landolt-Börnstein-Tabellen</u> (Springer-Verlag, Berlin)
1603A	An Infinite-Stage Production-Smoothing Process	M. Freimer	J. Math. Anal. Appl. <u>2</u> , 500 (1961)
1626	Two-Error Correcting Bose-Chaudhuri Codes are Quasi-Perfect	N. Zierler D. Gorenstein§ W. W. Peterson§	Inform. and Control <u>3</u> , 291 (1960)
1634	Rotating Polarization and Periodic Bodies	J. J. Mikulski	Proc. IRE <u>49</u> , 361 (1961)
1637 R	A Stochastic Model for Free Recall	N. C. Waugh J. E. K. Smith	Psychometrika <u>27</u> , 141 (1962)
1644 R	Figure Coherence in the Kinetic Depth Effect	B. F. Green, Jr.	J. Exptl. Psychol. <u>62</u> , 272 (1961)
1655	Frequency Variations Due to Over-the-Horizon Tropospheric Propagation	J. H. Chisholm S. J. Goodman§ J. M. Kennedy§ L. B. Lambert§ L. P. Rainville J. F. Roche	Trans. IRE, PGAP <u>AP-9</u> , 384 (1961)
1664A R	Calibration of Prism Spectrometers in the Ultraviolet, Visible, and Near-Infrared Regions	S. Zwerdling J. P. Theriault	Spectrochim. Acta <u>17</u> , 819 (1961)
1665	Design Using Computers	T. C. Bartee	Chap. 6, <u>A Survey of Switching Circuit Theory</u> , E. J. McCluskey and T. C. Bartee, Editors (McGraw-Hill, New York, 1962)
1667	Free Versus Serial Recall	N. C. Waugh	J. Exptl. Psychol. <u>62</u> , 496 (1961)
1671 R	A Theoretical Limitation on the Formation of Lossless Multiple Beams in Linear Arrays	J. L. Allen	Trans. IRE, PGAP <u>AP-9</u> , 350 (1961)
1682 R	A Transient Discrete Time Queue with Finite Storage	J. R. Kinney	Ann. Math. Stat. <u>33</u> , 130 (1962)
1688 R	Computer Languages for Symbol Manipulation	B. F. Green, Jr.	Trans. IRE, PGEC <u>EC-10</u> , 729 (1961)
1691 R	Machine Preparation of Printed-Wiring Masks	E. A. Guditz	Trans. IRE, PGPEP <u>PEP-5</u> , 22 (1961)

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JA No.

1693 R	A Poisson Kernel for Certain Homogeneous Spaces	R. Hermann	Proc. Am. Math. Soc. <u>12</u> , 892 (1961)
1697 R	Hexagonal Iron Nitrides	A. Wold R. J. Arnott N. Menyuk	J. Phys. Chem. <u>65</u> , 1068 (1961)
1704 R	Emission Spectrographic Analysis of Fused Aluminum Oxide and Fused Tin Oxide Crystals	E. B. Owens	Appl. Spectroscopy <u>16</u> , 86 (1962)
1711 R	The Computer as a Pattern Generator for Perceptual Research	B. W. White	Behavioral Sci. <u>6</u> , 253 (1961)
1716 R	A New Treatment of Bose-Chaudhuri Codes	H. F. Mattson§ G. Solomon	J. Soc. Ind. Appl. Math. <u>9</u> , 654 (1961)
1717 R	Stimulus-Conditions Affecting a Recently Discovered Stereoscopic Effect	B. W. White	Am. J. Psychol. <u>75</u> , 411 (1962)
1718 R	Keeping Track of Variables That Have Few or Many States	D. B. Yntema G. E. Mueser	J. Exptl. Psychol. <u>63</u> , 391 (1962)
1721 R	Relationship Between Crystal Symmetry and Magnetic Properties of Ionic Compounds Containing Mn <sup>3+</sup>	J. B. Goodenough A. Wold R. J. Arnott N. Menyuk	Phys. Rev. <u>124</u> , 373 (1961)
1723 R	Evidence for Canted Magnetic Moments in Manganous Stannate (Mn <sub>2</sub> SnO <sub>4</sub> )	D. G. Wickham§ N. Menyuk K. Dwight	Ltr., J. Phys. Chem. Solids <u>20</u> , 316 (1961)
1724 R	Recognition of Patterns in the EEG	B. G. Farley	Computer Techniques in EEG Analysis (Elsevier Publishing Co., Amsterdam, 1961), 49
1725 R	The Differential Geometry of Foliations, II	R. Hermann	J. Math. and Mech. <u>11</u> , 303 (1962)
1730 R	Cryosar Memory Design	R. C. Johnston	Trans. IRE, PGEC <u>EC-10</u> , 712 (1961)
1733	On Differentials in Function Fields	P. L. Falb O. Zariski§	Am. J. Math. <u>83</u> , 542 (1961)
1737 R	Likelihood Ratios for Diffusion Processes with Shifted Mean Values	T. S. Pitcher	Trans. Am. Math. Soc. <u>101</u> , 168 (1961)
1739 R	Hole Injection During Reduction of Ferricyanide at a Germanium Electrode	W. W. Harvey	J. Phys. Chem. <u>65</u> , 1641 (1961)
1741 R	On the Existence of a Fundamental Domain for Riemannian Transformation Groups	R. Hermann	Proc. Am. Math. Soc. <u>13</u> , 489 (1962)

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JA No.

1744 R	Growth of Refractory Crystals Using the Induction Plasma Torch	T. B. Reed	J. Appl. Phys. <u>32</u> , 2534 (1961)
1746 R	Symmetry of Configurational Entropy in Lattice Statistics	W. H. Kleiner	J. Chem. Phys. <u>36</u> , 76 (1962)
1753	Solution of Schrödinger Equation for a Periodic Lattice	L. Eges	Phys. Rev. <u>123</u> , 1673 (1961)
1757 R	'Erektron Subrack Kit' Adapts to Various Board Sizes	W. F. McBride	Elec. Design News <u>7</u> , 64 (1962)
1758 R	Description of Impurity Ionization in Semiconductors by Chemical Thermodynamics	W. W. Harvey	Phys. Rev. <u>123</u> , 1666 (1961)
1759 R	Some Effects of Anisotropy on Spiral Spin-Configuration with Application to Rare-Earth Metals	T. A. Kaplan	Phys. Rev. <u>124</u> , 329 (1961)
1763A R	Recognition of Familiar Characters Under an Unfamiliar Transformation	B. W. White	Perceptual and Motor Skills <u>15</u> , 107 (1962)
1766	Impurity Striations in Unrotated Crystals of InSb	H. C. Gatos A. J. Strauss M. C. Lavine T. C. Harman	J. Appl. Phys. <u>32</u> , 2057 (1961)
1767 R	A Theory of Transistor Cutoff Frequency ( $f_T$ ) Falloff at High Current Densities	C. T. Kirk, Jr.	Trans. IRE, PGED <u>ED-9</u> , 164 (1962)
1768 R	High-Power Duplexers	C. E. Muehe, Jr.	Trans. IRE, PGM TT <u>MTT-9</u> , 506 (1961)
1769A R	Effect of Temporal Ordering on Visual Recognition	B. W. White	Perceptual and Motor Skills <u>15</u> , 75 (1962)
1771	Utilization of Order-Disorder Theory in Physical Adsorption. II. The Square Lattice	J. M. Honig	Advances in Chemistry Series, No. 33, 239 (1961)
1772 R	Width of the Turbulent Trail Behind a Hypervelocity Sphere	R. E. Slattery W. G. Clay	Phys. Fluids <u>4</u> , 1199 (1961)
1775 R	Angular Dependence of Magnetoresistance in HgSe	T. C. Harman	Ltr., J. Appl. Phys. <u>32</u> , 1800 (1961)
1776 R	Measurement of Mitral Regur- gitation by Indicator-Dilution Techniques	W. H. Levison\$ W. D. Jackson\$ H. Sherman L. B. McGuire\$	Circulation Res. <u>9</u> , 1109 (1961)
1777 R	Elements of Order-Disorder Theory	J. M. Honig	J. Chem. Educ. <u>38</u> , 538 (1961)
1779	Generalized Reed-Muller Codes	E. Weiss	Accepted Inform. and Control

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JA No.

1780 R	Cyclotron Resonance	B. Lax	Science <u>134</u> , 1333 (1961)
1783 R	Preparation of Stoichiometric Chromites	E. Whipple A. Wold	J. Inorg. Nucl. Chem. <u>24</u> , 23 (1962)
1784 R	Discussion of Incoherent Back-scatter Power Measurements at 440 Mc/s	V. C. Pineo H. W. Briscoe	J. Geophys. Res. <u>66</u> , 3965 (1961)
1785 R	Magnetotunneling in Lead Telluride	R. H. Rediker A. R. Calawa	J. Appl. Phys. <u>32S</u> , 2189 (1961)
1786 R	The Negative Resistances in Junction Diodes	I. Hefni	Proc. IRE (Correspondence) <u>49</u> , 1427 (1961)
1788 R	The Dielectric Constant of Liquid Helium	C. E. Chase E. Maxwell W. E. Millett§	Physica <u>27</u> , 1129 (1961)
1789	Magnetism and the Chemical Bond	J. B. Goodenough	Accepted Suppl. I of <u>Progress in Inorganic Chemistry</u> , Vol. 4 (Interscience Publishers) Elec. Design News <u>7</u> , 64 (1962)
1791 R	Magnetic Field Dependence of the Superconducting Penetration Depth in Thin Specimens	D. H. Douglass, Jr.	Phys. Rev. <u>124</u> , 735 (1961)
1794 R	Solid-State Devices Other than Semiconductors	B. Lax J. G. Mavroides	Proc. IRE <u>50</u> , 1011 (1962)
1795 R	Oscillatory Magnetoabsorption in InSb Under High Resolution	S. Zwerdling W. H. Kleiner J. P. Theriault	J. Appl. Phys. <u>32S</u> , 2118 (1961)
1796 R	Noncoherent Switching in Permalloy Films	D. O. Smith K. J. Harte	J. Appl. Phys. <u>33</u> , 1399 (1962)
1797 R	Crystallographic Polarity in the II-VI Compounds	E. P. Warekois M. C. Lavine A. N. Mariano H. C. Gatos	J. Appl. Phys. <u>33</u> , 690 (1962)
1798	The Structure and Switching of Permalloy Films	D. O. Smith	Accepted Chap. 31, <u>Magnetism: a Treatise on Modern Theory and Materials</u> , George T. Rado, Editor (Academic Press)
1799 R	Proposal for Magnetic Domain-Wall Storage and Logic	D. O. Smith	Trans. IRE, PGEC EC-10, 708 (1961)
1802	Tangential Limits of Functions from the Class $S_\alpha$	J. R. Kinney	Accepted Proc. Am. Math. Soc.
1803 R	Compression and Coding	E. Weiss	Trans. IRE, PGIT IT-8, 256 (1962)

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**JA No.**

1805 R	Signal Sets with Uniform Correlation Properties	J. Max	J. Soc. Ind. Appl. Math. <u>10</u> , 113 (1962)
1808 R	Radiation Damage Experiments on PbS Infrared Detectors	R. R. Billups W. L. Gardner	Infrared Phys. <u>1</u> , 199 (1961)
1809 R	Sequential Decoding for Discrete Input Memoryless Channels	B. Reiffen	Trans. IRE, PGIT <u>IT-8</u> , 208 (1962)
1810 R	Effects of the Earth's Magnetic Field on the Orbit of a Charged Satellite	I. I. Shapiro H. M. Jones	J. Geophys. Res. <u>66</u> , 4123 (1961)
1812 R	Electrochemical and Adsorption Measurements on Single Crystals: The Germanium-Iodide Solution System	W. W. Harvey W. J. LaFleur H. C. Gatos	J. Electrochem. Soc. <u>109</u> , 155 (1962)
1813A R	Radiation Effects in CaF <sub>2</sub> :Sm	J. R. O'Connor H. A. Bostick	J. Appl. Phys. <u>33</u> , 1868 (1962)
1815 R	A Note on a New Class of Codes	G. Solomon	Inform. and Control <u>4</u> , 364 (1961)
1816 R	Classical Theory of the Ground Spin-State in Cubic Spinels	D. H. Lyons T. A. Kaplan K. Dwight N. Menyuk	Phys. Rev. <u>126</u> , 540 (1962)
1817 R	A Versatile Stochastic Model of a Function of Unknown and Time Varying Form	H. J. Kushner	J. Math. Anal. Appl. <u>5</u> , 450 (1962)
1818 R	Computer Techniques for the Study of Patterns in the Electroencephalogram	B. G. Farley L. S. Frishkopf W. A. Clark, Jr. J. T. Gilmore, Jr.	Trans. IRE, PGBME <u>BME-9</u> , 4 (1962)
1819 R	Characteristics of the {III} Surfaces of the III-V Intermetallic Compounds: III. The Effects of Surface Active Agents on InSb and the Identification of Antimony Edge Dislocations	M. C. Lavine H. C. Gatos M. C. Finn	J. Electrochem. Soc. <u>108</u> , 974 (1961)
1820 R	Interband Transitions for Metals in a Magnetic Field	M. S. Dresselhaus G. F. Dresselhaus	Phys. Rev. <u>125</u> , 499 (1962)
1821	Microwave Devices	K. J. Button	Accepted Chap. 25, <u>Magnetism: a Treatise on Modern Theory and Materials</u> , George T. Rado, Editor (Academic Press)
1822 R	Visual Acuity under Blue Illumination	R. T. Mitchell R. R. Mitchell	Trans. IRE, PGHFE <u>HFE-3</u> , 14 (1962)

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**JA No.**

1824 R	Radar Reflections from the Sun at Very High Frequencies	W. G. Abel J. H. Chisholm P. L. Fleck J. C. James	Ltr., J. Geophys. Res. <u>66</u> , 4303 (1961)
1825 R	Eyes and Ears for Computers	E. E. David, Jr. § O. G. Selfridge	Proc. IRE <u>50</u> , 1093 (1962)
1826	Magnetism and Crystal Structure in Nonmetals	J. B. Goodenough	Accepted Chap. 9, <u>Magnetism: a Treatise on Modern Theory and Materials</u> , George T. Rado, Editor (Academic Press)
1828 R	Nonparabolic Conduction Band in HgSe and HgSe <sub>0.5</sub> Te <sub>0.5</sub>	G. B. Wright A. J. Strauss T. C. Harman	Phys. Rev. <u>125</u> , 1534 (1962)
1830A	The Multiplicity of Thought	U. Neisser	Accepted Brit. J. Psychol.
1831 R	Diurnal Power Variations of the Earth-Ionosphere Cavity Modes and Their Relationship to Worldwide Thunderstorm Activity	M. Balser C. A. Wagner	J. Geophys. Res. <u>67</u> , 619 (1962)
1832A R	A New Technique for Investigation of Meteor Echoes at UHF	G. H. Pettengill	J. Geophys. Res. <u>67</u> , 409 (1962)
1833 R	Theory of Bloch Electrons in a Magnetic Field	L. M. Roth	J. Phys. Chem. Solids <u>23</u> , 433 (1962)
1834 R	Lifetimes of Orbiting Dipoles	I. I. Shapiro H. M. Jones	Science <u>134</u> , 973 (1961)
1835 R	Mechanical Developer for Mass Spectrographic Plates	E. B. Owens	Rev. Sci. Instr. <u>32</u> , 1420 (1961)
1840 R	Interband Transitions in Superconductors	G. Dresselhaus M. S. Dresselhaus	Phys. Rev. <u>125</u> , 1212 (1962)
1841 R	An RF Multiple Beam-Forming Technique	W. P. Delaney	Trans. IRE, PGMIL <u>MIL-6</u> , 179 (1962)
1841A	Steering Radar Antenna Beams with a Lossless R-F Matrix	W. P. Delaney	Electronics <u>35</u> , No. 28, 50 (1962)
1847 R	Tunnel Diode Burnout from the Video Transient of Gaseous Noise Sources	C. Blake W. J. Ince	Trans. IRE, PGM TT <u>MTT-10</u> , 88 (1962)
1848 R	Computer Program for Pitch Extraction	B. Gold	J. Acoust. Soc. Am. <u>34</u> , 916 (1962)
1851	Distribution of the Normalized Periodogram Detector	R. P. Wishner	Trans. IRE, PGIT <u>IT-8</u> , 342 (1962)
1852 R	Vapor Growth of Tin Oxide Crystals	T. B. Reed J. T. Roddy A. N. Mariano	Ltr., J. Appl. Phys. <u>33</u> , 1014 (1962)

**JOURNAL ARTICLES (Continued)**

**JA No.**

1853	Design of a Repairable Redundant Computer	R. Teoste	Trans. IRE, PGEC <u>EC-11</u> , 643 (1962)
1854 R	Low Electron Effective Masses and Energy Gap in $Cd_xHg_{1-x}Te$	T. C. Harman A. J. Strauss D. H. Dickey M. S. Dresselhaus G. B. Wright J. G. Mavroides	Phys. Rev. Letters <u>7</u> , 403 (1961)
1855 R	The Effect of Ion Mass and Ion Energy on the Sensitivity of Ilford Q <sub>2</sub> Plates as Ion Detectors in Mass Spectrography	E. B. Owens	Appl. Spectroscopy <u>16</u> , 148 (1962)
1856 R	Sophistication in Computers: a Disagreement	J. R. Kelly, Jr. § O. G. Selfridge	Trans. IRE, PGIT <u>IT-8</u> , 78 (1962) Proc. IRE <u>50</u> , 1459 (1962)
1858 R	The Great Bat Mystery	J. J. G. McCue	Industrial Photography <u>10</u> , 48 (1961)
1860 R	Galvano-Thermomagnetic Effects in Degenerate Semiconductors and Semimetals with Nonparabolic Band Shapes: II. General Theory	T. C. Harman J. M. Honig	J. Phys. Chem. Solids <u>23</u> , 913 (1962)
1861	Properties of 400 Mcps Long-Distance Tropospheric Circuits	J. H. Chisholm W. E. Morrow B. E. Nichols J. F. Roche A. E. Teachman§	Proc. IRE <u>50</u> , 2464 (1962)
1862	Bakeable Absolute Pressure Gauge for the Millimeter of Mercury Range	W. J. Condell§ H. I. Mandelberg§ T. J. Beahn§ C. E. Muehe	Rev. Sci. Instr. <u>33</u> , 231 (1962)
1863A R	Nb <sub>3</sub> In: A $\beta$ -Tungsten Structure Superconducting Compound	M. D. Banus T. B. Reed H. C. Gatos M. C. Lavine J. A. Kafalas	J. Phys. Chem. Solids <u>23</u> , 971 (1962)
1864 R	{100} Facets in Pulled Crystals of InSb	A. J. Strauss	Solid-State Electronics <u>5</u> , 97 (1962)
1867 R	Solution of Schrödinger Equation for a Periodic Lattice. II	L. Egyes	Phys. Rev. <u>126</u> , 93 (1962)
1868 R	Model for Transient Oscillations in a Three-Level Optical Maser	J. I. Kaplan R. Zier	J. Appl. Phys. <u>33</u> , 2372 (1962)
1869 R	The Theory of Tunneling and Its Dependence on a Longitudinal Magnetic Field	P. N. Argyres	Phys. Rev. <u>126</u> , 1386 (1962)

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**JA No.**

1872 R	Correlation between Maximum Solid Solubility and Distribution Coefficient for Impurities in Ge and Si	S. Fischler	Ltr., J. Appl. Phys. <u>33</u> , 1615 (1962)
1873 R	Electrolytic Polarization Resulting from Longitudinal Current in Electrodes	W. W. Harvey	J. Electrochem. Soc. <u>109</u> , 638 (1962)
1874	A Figure of Merit for the Design of Inductance Coils Having Low Distributed Capacitance	B. Howland	Trans. IRE, PGCP <u>CP-9</u> , 102 (1962)
1875 R	Computer Applications to Psychological Research: Studies in Perception	B. W. White	Behavioral Sci. <u>7</u> , 396 (1962)
1877	Decision Time Without Reaction Time: Experiments in Visual Scanning	U. Neisser	Accepted Am. J. Psychol.
1878 R	Small He II Tight Optical Windows	C. J. Rauch W. C. Kernan	Rev. Sci. Instr. <u>33</u> , 496 (1962)
1880B	An Experimental Study of Bibliographic Coupling Between Technical Papers	M. M. Kessler	Accepted Trans. IRE, PGIT
1882 R	Anomalous Magnetic Films	M. S. Cohen	J. Appl. Phys. <u>33</u> , 2968 (1962)
1884 R	On the Structure of Operator Algebras	R. T. Prosser	Accepted Memoirs of the Am. Math. Soc.
1884 R	High Magnetic Fields and High Frequencies	B. Lax	Microwave J. <u>5</u> , No. 2, 13 (1962)
1885 R	Adaptation of Lattice Vacancy Theory to Gas Adsorption Phenomena	J. M. Honig C. R. Mueller <sup>S</sup>	J. Phys. Chem. <u>66</u> , 1305 (1962)
1886 R	Ferro- and Antiferromagnetism in a Cubic Cluster of Spins	G. F. Dresselhaus	Phys. Rev. <u>126</u> , 1664 (1962)
1887	Hg-Se System	A. J. Strauss L. B. Farrell	Accepted J. Inorg. Nucl. Chem.
1888 R	Infrared Oscillations from CaF <sub>2</sub> :U <sup>+3</sup> and BaF <sub>2</sub> :U <sup>+3</sup> Masers	H. A. Bostick J. R. O'Connor	Proc. IRE <u>50</u> , 219 (1962)
1890 R	Gain and Impedance Variation in Scanned Dipole Arrays	J. L. Allen	Trans. IRE, PGAP <u>AP-10</u> , 566 (1962)
1891 R	Measurement of Turbulent Transition, Motion, Statistics, and Gross Radial Growth behind Hypervelocity Objects	R. E. Slattery W. G. Clay	Phys. Fluids <u>5</u> , 849 (1962)

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**JA No.**

1892 R	Array Radars - A Survey of Their Potential and Their Limitations	J. L. Allen	Microwave J. <u>5</u> , No. 5, 67 (1962)
1893 R	Quantitative Measurement of Semiconductor Homogeneity from Plasma Edge	D. F. Edwards P. D. Maker§	J. Appl. Phys. <u>33</u> , 2466 (1962)
1894 R	Negative Resistance InSb Diodes with Large Magnetic Field Effects	I. Melngailis R. H. Rediker	Ltr., J. Appl. Phys. <u>33</u> , 1892 (1962)
1895	Likelihood Ratios for Stochastic Processes Related by Groups of Transformations	T. S. Pitcher	Accepted Illinois J. Math.
1896	Hierarchies in Concept Attainment	U. Neisser P. Weene	J. Exptl. Psychol. <u>64</u> , 640 (1962)
1898 R	Communication Theory vs Communications	R. M. Lerner	Trans. IRE, PGIT <u>IT-8</u> , 325 (1962)
1901 R	Nonlinear Interband and Plasma Effects in Solids	B. Lax J. G. Mavroides D. F. Edwards	Phys. Rev. Letters <u>8</u> , 166 (1962)
1903	Idler Circuits in Varactor Frequency Multipliers	B. L. Diamond	Accepted Trans. IRE, PGCT
1904 R	Parametric Amplification and Oscillation at Optical Frequencies	R. H. Kingston	Proc. IRE (Correspondence) <u>50</u> , 472 (1962)
1907	Electron Diffraction Technique for Identifying Oxide Layers on Crystal Surfaces	T. P. Turnbull	Norelco Reporter <u>9</u> , 77 (1962)
1908 R	Gibbs' Phase Rule and Euler's Formula	J. Mindel	J. Chem. Educ. <u>39</u> , 512 (1962)
1909 R	Time Optimal Control for Plants with Numerator Dynamics	M. Athanassiades P. L. Falb R. E. Kalman§ E. B. Lee§	Trans. IRE, PGAC <u>AC-7</u> , 47 (1962)
1910 R	Storage and Logic Properties of Magnetic Domain-Walls	D. O. Smith	Solid State Design <u>3</u> , 23 (1962)
1913 R	Ferro- and Antiferromagnetism in a Simple Cubic Lattice	G. F. Dresselhaus	Phys. Rev. <u>127</u> , 1137 (1962)
1914 R	Synthesis and Superconducting Properties of $Nb_3Sn_2$ and $Nb_2Sn_3$	T. B. Reed H. C. Gatos	Ltr., J. Appl. Phys. <u>33</u> , 2657 (1962)
1915	Crystalline Structure and Surface Reactivity	H. C. Gatos	Science <u>137</u> , 311 (1962)

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JA No.

1916 R	Some Statistical Properties of Pulsed Oblique HF Ionospheric Transmissions	M. Balser W. B. Smith	J. Research Natl. Bur. Standards <u>66D</u> , 721 (1962)
1917 R	On Frequency Variations of the Earth-Ionosphere Cavity Modes	M. Balser C. A. Wagner	Ltr., J. Geophys. Res. <u>67</u> , 4081 (1962)
1919 R	A Radar Investigation of Venus	G. H. Pettengill H. W. Briscoe J. V. Evans E. Gehrels G. M. Hyde L. G. Kraft R. Price W. B. Smith	Astron. J. <u>67</u> , 181 (1962)
1920 R	Note on the Creation of Pitch through Binaural Interaction	N. I. Durlach	J. Acoust. Soc. Am. <u>34</u> , 1096 (1962)
1921 R	Thermal Conduction in Liquid Helium II. I. Temperature Dependence	C. E. Chase	Phys. Rev. <u>127</u> , 361 (1962)
1922	Theory of Galvano-Thermomagnetic Energy Conversion Devices: I. Generators	T. C. Harman J. M. Honig	J. Appl. Phys. <u>33</u> , 3178 (1962)
1923	Optimal Control for Linear Time-Invariant Plants with Time, Fuel and Energy Constraints	M. Athanassiades	Accepted Trans. AIEE
1924 R	An Alpha-State Finite Automaton for Multiplication by Alpha	J. M. Winett	Trans. IRE, PGEC <u>EC-11</u> , 412 (1962)
1925	Energy of a Vortex Ring in a Tube and Critical Velocities in Liquid Helium II	J. C. Fineman C. E. Chase	Accepted Phys. Rev.
1927 R	Classical Theory of the Ground Spin-State in Normal Tetragonal Spinels. I. Néel, Yafet-Kittel, and Collinear Antiferromagnetic Modes	N. Menyuk K. Dwight D. H. Lyons T. A. Kaplan	Phys. Rev. <u>127</u> , 1983 (1962)
1928 R	Quantum Effects in Ge and Si. I	J. J. Stickler H. J. Zeiger G. S. Heller	Phys. Rev. <u>127</u> , 1077 (1962)
1929 R	Distribution of Sulfur in InSb Single Crystals	M. D. Banus H. C. Gatos	J. Electrochem. Soc. <u>109</u> , 829 (1962)
1933 R	Elastic Strain Energy Associated with the "A" Surfaces of the III-V Compounds	R. E. Hanneman M. C. Finn H. C. Gatos	J. Phys. Chem. Solids <u>23</u> , 1553 (1962)
1935	New Method for Calculating Molecular Orbitals with Application to Cyclic Systems	L. Egyes	Phys. Rev. <u>128</u> , 1715 (1962)

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JA No.			
1937	Plasma Torches	T. B. Reed	Int'l Science and Technology, No. 6, 42 (1962)
1941	The Well-Rounded Man	B. Lax	Microwave J. 5, No. 6, 13 (1962)
1943	The Growth of Ferrous Free Cobalt Ferrite Single Crystals	A. Ferretti W. Kunmann A. Wold	Accepted J. Appl. Phys.
1944 R	Infrared Absorption Spectrum of Sulfur-Doped Silicon	W. E. Krag H. J. Zeiger	Phys. Rev. Letters 8, 485 (1962)
1945	Theory of Galvano-Thermomagnetic Energy Conversion Devices: II. Refrigerators and Heat Pumps	T. C. Harman J. M. Honig	J. Appl. Phys. 33, 3188 (1962)
1946 R	Transcontinental Satellite Television Transmission	D. H. Hamilton H. H. Hoover R. V. Locke D. C. MacLellan W. E. Morrow B. E. Nichols T. F. Rogers P. Waldron	Proc. IRE (Correspondence) 50, 1522 (1962)
1947	Methods for the Adaptive Optimization of Binary Detection Systems	H. J. Kushner	Accepted Trans. IRE, PGIT
1949 R	Recombination Radiation Emitted by Gallium Arsenide	R. J. Keyes T. M. Quist	Proc. IRE (Correspondence) 50, 1822 (1962)
1950	The Asymptotic Behavior of the Solution of a Volterra Equation	J. J. Levin	Accepted Proc. Am. Math. Soc.
1951 R	High Pressure Phase Transition in Mercury Selenide	J. A. Kafalas H. C. Gatos M. C. Lavine M. D. Banus	J. Phys. Chem. Solids 23, 1541 (1962)
1952	On the Effect of Mutual Coupling on Unequally Spaced Arrays	J. L. Allen W. P. Delaney	Trans. IRE, PGAP AP-10, 784 (1962)
1954 R	Preparation of Niobium-Tin Wires for Microscopy	T. P. Turnbull H. H. Ehlers	Rev. Sci. Instr. 33, 876 (1962)
1957	Deviations from Stoichiometry and Electrical Properties in SnTe	R. F. Brebrick	Accepted J. Phys. Chem. Solids
1958	A Circuit for the Square Root of the Sum of the Squares	R. M. Lerner T. E. Stern§	Accepted Proc. IRE
1959	The Computation of Electromagnetic Scattering from Concentric Spherical Structures	J. J. Mikulski E. L. Murphy	Accepted Trans. IRE, PGAP

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JA No.			
1960	The Convex Hull of Plane Brownian Motion	J. R. Kinney	Accepted Ann. Math. Stat.
1962	Largest of N Selection Systems Affected by Multipath Time Spreading	J. Dumanian	Accepted Proc. IRE
1963	Operating Characteristics of a Telephone Data Transmission System with Feedback	A. B. Fontaine	Accepted Trans. AIEE
1965 R	The Relation Between the Chemical Potential of Electrons and Energy Parameters of the Band Theory as Applied to Semiconductors	W. W. Harvey	J. Phys. Chem. Solids <u>23</u> , 1545 (1962)
1966 R	Diurnal Variation of the Temperature of the F Region	J. V. Evans	Ltr., J. Geophys. Res. <u>67</u> , 4914 (1962)
1967 R	Laminar-Turbulent Transition and Subsequent Motion Behind Hypervelocity Spheres	R. E. Slattery W. G. Clay	ARS J. <u>32</u> , 1427 (1962)
1969	Error Probabilities for Adaptive Multichannel Reception of Binary Signals: Addendum	R. Price	Trans. IRE, PGIT <u>IT-8</u> , 387 (1962)
1970	Theory of Galvano-Thermomagnetic Energy Conversion Devices: III. Generators Constructed from Anisotropic Materials	T. C. Harman J. M. Honig	Accepted J. Appl. Phys.
1971	Real-Channel Aspects of an Error-Free Data Transmission System for Toll-Grade Telephone Circuits	W. G. Schmidt	Accepted Trans. IRE, PGIT
1973A	The Preparation and Properties of Some Vanadium Spinels	D. B. Rogers R. J. Arnott A. Wold J. B. Goodenough	Accepted J. Phys. Chem. Solids
1974	A Pulse Compression System Employing a Linear FM Gaussian Signal	E. N. Fowles <sup>§</sup> D. R. Carey R. E. VanderSchuur R. C. Yost	Accepted Proc. IRE
1976	The Sensitivity of Radiometric Measurements	E. J. Kelly D. H. Lyons <sup>§</sup> W. L. Root <sup>§</sup>	Accepted J. Soc. Ind. Appl. Math.
1977	X-Ray Techniques and the Study of Defect Structure in Semiconductor Crystals	V. Sadagopan <sup>§</sup> R. E. Hanneman	Solid State Abstracts <u>3</u> , 179 (1962)
1979	Angular and Magnitude Dispersion of the Anisotropy in Magnetic Films	T. S. Crowther	Accepted J. Appl. Phys.

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JA No.

1980	Crystallographic Polarity of ZnO Crystals	A. N. Mariano R. E. Hanneman	Accepted J. Appl. Phys.
1981	The Madistor - A Magnetically Controlled Semiconductor Plasma Device	I. Melngailis R. H. Rediker	Proc. IRE <u>50</u> , 2428 (1962)
1982	Optimal Stochastic Control	H. J. Kushner	Trans. IRE, PGAC <u>AC-7</u> , 120 (1962)
1983 R	Spectral Widths and Shapes and Other Characteristics of Incoherent Backscatter from the Ionosphere Observed at 440 Mcps during a 24-Hour Period in May 1961	V. C. Pineo D. P. Hynek	J. Geophys. Res. <u>67</u> , 5119 (1962)
1984 R	Gallium-Arsenide Diode Sends Television by Infrared Beam	R. H. Rediker R. J. Keyes T. M. Quist M. J. Hudson C. R. Grant R. G. Burgess	Electronics <u>35</u> , No. 40, 44 (1962)
1987 R	Comments on Similarity Considerations for Varactor Multipliers	P. Penfield <sup>§</sup> B. L. Diamond	Ltr., Microwave J. <u>5</u> , No. 9, 22 (1962)
1988	A Lunar Theory Reasserted - A Rebuttal	J. V. Evans	Accepted J. Research Natl. Bur Standards
1991 R	Operating Characteristics of Transverse (Nernst) Anisotropic Galvano-Thermomagnetic Generators	T. C. Harman J. M. Honig	Appl. Phys. Letters <u>1</u> , 31 (1962)
1992 R	Enhancement of Radar Reflectivity Associated with the Lunar Crater Tycho	G. H. Pettengill J. C. Henry	Ltr., J. Geophys. Res. <u>67</u> , 4881 (1962)
1993 R	Velocity of Sound in Liquid Helium at Low Temperatures	W. M. Whitney <sup>§</sup> C. E. Chase	Phys. Rev. Letters <u>9</u> , 243 (1962)
1994	The Scattering Behavior of the Moon at Wavelengths of 3.6, 68 and 784 cm.	J. V. Evans G. H. Pettengill	Accepted J. Geophys. Res.
1995	Operating Characteristics of Nernst Refrigerators for Anisotropic Materials	T. C. Harman J. M. Honig	Accepted Appl. Phys. Letters
1997	On the Sample Functions of Processes Which Can Be Added to a Gaussian Process	T. S. Pitcher	Accepted Ann. Math. Stat.
1998	Golden Years of Applied Science	B. Lax	Microwave J. <u>5</u> , No. 10, 13 (1962)
2001	Magneto-Reflection in Bismuth	R. N. Brown J. G. Mavroides B. Lax	Accepted Phys. Rev.

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JA No.			
2004	A Low-Cost Thermocouple Potentiometer	F. T. Worrell	Accepted Am. J. Phys.
2005	High-Field Superconductivity in Niobium	S. H. Autler E. S. Rosenblum K. H. Gooen§	Phys. Rev. Letters <u>9</u> , 489 (1962)
2006	Routing Procedures in Communications Networks. Part I: Random Procedures; Part II: Directory Procedures	R. T. Prosser	Accepted Trans. IRE, PGCS
2015	The Degarbler	C. K. McElwain M. B. Evens§	Accepted Inform. and Control
2022 R	Key to Faster Computers: Ten-Nanosecond Amplifier	K. H. Konkle J. E. Laynor	Electronics <u>35</u> , No. 50, 39 (1962)
2023	A Survey of Varactor Diode Parametric Amplifier Characteristics	C. Freed	Accepted Microwave J.
2033	Nonlinear Oscillations of Fixed Period	J. J. Levin S. S. Shatz§	Accepted J. Math. Anal. Appl.
2032-II	Semiconductor Maser of GaAs	T. M. Quist R. H. Rediker R. J. Keyes W. E. Krag B. Lax A. L. McWhorter H. J. Zeiger	Appl. Phys. Letters <u>1</u> , 91 (1962)
2034	Keeping Track of Several Things at Once	D. B. Yntema	Accepted Human Factors
2037 R	Oscillatory Quantum Effects in the Ultrasonic Velocity in Bismuth	J. G. Mavroides B. Lax K. J. Button Y. Shapira§	Phys. Rev. Letters <u>9</u> , 451 (1962)
2043	High Speed Hetrojunction Photodiodes and Beam-of-Light Transistors	R. H. Rediker T. M. Quist B. Lax	Accepted Proc. IRE (Correspondence)
2057	On the Minimum a Priori Information Necessary to Construct Adaptive Filters for Stationary Time Series	H. J. Kushner	Accepted Trans. IRE-PGAC
2079	A Low-Level Peak Holding Circuit Using an Operational Amplifier	K. H. Morey K. E. Perry	Accepted Proc. IRE (Correspondence)

MEETING SPEECHES\*

JA No.

1350	A Study of UHF Space Communications Through an Aurora Using the Moon as a Reflector	R. P. Ingalls J. C. James M. L. Stone	<u>Ballistic Missiles and Space Technology</u> , Vol. III (Pergamon Press, New York, 1961), 272
1380A R	Automatic Digital-Data-Error Recorder	E. J. Hofmann	Trans. IRE, PGI I-10, 27 (1961)
1392A R	The Oxidation of Intermetallic Compounds: IV. The Sorption of Oxygen by InSb at 78°K	A. J. Rosenberg A. A. Menna	<u>Reactivity of Solids</u> , J. H. deBoer, et al., Editors (Elsevier, Amsterdam, 1960), 162
1423A R	The Millstone Radar in Satellite and Missile Tracking	J. S. Arthur J. C. Henry G. H. Pettengill P. B. Sebring	<u>Ballistic Missiles and Space Technology</u> , Vol. III (Pergamon Press, New York, 1961), 81
1478 R	Solid State Microwave Devices	R. H. Kingston	Nachrichtentechnische Fachberichte, Band 22 (1961)
1530	Communication in Digital Systems	I. L. Lebow	<u>Information Theory</u> (Butterworths, London, 1961), 99

Note: Since 1 March 1960, Meeting Speeches have carried MS rather than JA numbers.

MS No.

22	Magneto-Spectroscopy in Semiconductors	B. Lax	Proc. Intl. Conf. on Semiconductor Physics, Prague, Aug. 1960
24	Damaged Layers in the {111} Surfaces of the III-V Semiconductor Compounds	H. C. Gatos M. C. Levine E. P. Warekois	Proc. Intl. Conf. on Semiconductor Physics, Prague, Aug. 1960
61	Advanced Radar Information Evaluation System - ARIES	D. L. Lovenirth W. F. Holst	<u>Ballistic Missile and Space Technology</u> , Vol. III, D. P. LeGalley, Editor (Academic Press, New York, 1960), 33
82	Low-Temperature Devices	A. L. McWhorter	Trans. IRE, PGE E-3, 137 (1960)
84 R	Learning in Random Nets	M. Minsky O. G. Selfridge	<u>Information Theory</u> (Butterworths, London, 1961), 335
89 R	The Computer as a Pattern Generator for Perceptual Research	B. W. White	Behavioral Sci. 6, 252 (1961)
91 R	Distances and Ratios in Psychophysical Scaling	W. S. Torgerson	Acta Psychol. 19, 201 (1961)
94	Spin-Lattice Interaction for Electrons in Semiconductors	L. M. Roth	Proc. Intl. Conf. on Semiconductor Physics, Prague, Aug. 1960

\* Only Meeting Speeches published or accepted for publication are included.

MEETING SPEECHES (Continued)

MS No.

144A R	CW Millimeter Wavelength Maser	S. Foner L. R. Momo J. B. Thaxter G. S. Heller R. M. White	<u>Advances in Quantum Electronics</u> , J. R. Singer, Editor (Columbia Univ. Press, New York, 1961), 553
159 R	A Sequential Detection System for the Processing of Radar Returns	A. A. Galvin	Proc. IRE <u>49</u> , 1417 (1961)
162 R	Ultrasonic Instrumentation for Research on Bats	J. J. G. McCue	Rec. IRE Intl. Conv., Pt. 6, New York, Mar. 1961
172	Radio Echo Measurements of the Lunar Surface	G. H. Pettengill	Proc. Lunar Symp. of Intl. Astronomical Union, Leningrad, Dec. 1960
180 R	Perturbation Theory of the Reciprocal Ferrite Phase - Shifter	K. J. Button B. Lax	Proc. IEE <u>109B</u> , Suppl. 21, 56 (1962)
181 R	Stoichiometry of Copper Bonding Using Copper Oxide	E. B. Murphy T. P. Turnbull	Proc. Am. Electroplaters' Soc., Newark (1961)
188	Radar Measurements of the Lunar Surface	G. H. Pettengill J. C. Henry	Accepted <u>Advances in the Astronautical Sciences</u> , Vol. 8
217 R	Cyclotron Resonance Maser	B. Lax	<u>Advances in Quantum Electronics</u> , J. R. Singer, Editor (Columbia Univ. Press, New York, 1961), 465
227 R	Spin-Orbit vs Jahn-Teller Deformation in Chromium Spinels	J. B. Goodenough	J. Phys. Soc. Japan <u>17</u> , Suppl. B-1, 185 (1962)
229	Design of a Twelve Horn Monopulse Feed	L. J. Ricardi L. Niro	Rec. 7th Annual Radar Symp., Univ. of Michigan, May 1961
237 R	Spin Wave Resonance in Magnetic Films	P. E. Tannenwald	J. Phys. Soc. Japan <u>17</u> , Suppl. B-1, 592 (1962)
238 R	Positive and Negative Anisotropy in Nickel-Iron Films	D. O. Smith	J. Phys. Soc. Japan <u>17</u> , Suppl. B-1, 550 (1962)
240	Deep Space Probes at Millimeter Wavelengths	J. W. Meyer V. L. Lynn C. M. Steinmetz E. A. Crocker	Rec. 7th Annual Radar Symp., Univ. of Michigan, May 1961 H-417, M\$1.50, P\$6.15
241 R	Mass Spectrographic Evidence for Deviations from Stoichiometry in GaSb	E. B. Owens A. J. Strauss	Proc. Conf. on Ultrapurification of Semiconductor Materials, Boston, Apr. 1961
253A R	Experimental Studies of the F Region Using the Incoherent Backscatter Technique at Frequencies Around 400 Mc/s	V. C. Pineo L. G. Kraft H. W. Briscoe D. P. Hynek	<u>Electron Density Profiles</u> (Pergamon Press, Oxford, 1962), 358

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MS No.

257 R	High Field Magnetic Resonance Experiments	S. Foner	J. Phys. Soc. Japan <u>17</u> , Suppl. B-1, 424 (1962)
267 R	Solar Radiation Pressure Effects, Gas Leakage Rates, and Air Densities Inferred from the Orbit of Echo I	H. M. Jones I. I. Shapiro P. E. Zadunaisky§	<u>Space Research II</u> (Proc. Second Intl. Space Science Symp.), H. C. Van de Hulst, <u>et al.</u> , Editors (North-Holland, Amsterdam, 1961)
268 R	Band Structure of HgSe and HgSe-HgTe Alloys	T. C. Harman A. J. Strauss	J. Appl. Phys. <u>32S</u> , 2265 (1961)
269 R	Magnetoreflection Experiments in Intermetallics	G. B. Wright B. Lax	J. Appl. Phys. <u>32S</u> , 2113 (1961)
270 R	Interband Faraday Rotation in III-V Compounds	B. Lax Y. Nishina§	J. Appl. Phys. <u>32S</u> , 2128 (1961)
272 R	Infrared and Dielectric Analysis of Structural Polyurethane Foams	E. B. Murphy W. A. O'Neil	SPE J. <u>18</u> , 47 (1962)
285 R	Report from a Symposium on the Application of Low Noise Receivers to Radar and Allied Equipment	J. W. Meyer	<u>Low Noise Electronics</u> (Proc. Fifth AGARD Avionics Panel Conf.) (Pergamon Press, London, 1962), 253
292 R	Some Results of Computer Simulation of Neuron-Like Nets	B. G. Farley	Proc. Fed. of Amer. Soc. for Exptl. Biology, Apr. 1961
301 R	Magnetic Field Dependence of the Superconducting Energy Gap in Ginzburg-Landau Theory with Application to Al	D. H. Douglass, Jr.	IBM J. Research Develop. <u>6</u> , 44 (1962)
307 R	Texture and Orientation of Evaporated Bismuth Films	T. P. Turnbull E. P. Warekois	<u>Metallurgy of Semiconductor Materials</u> (Interscience Publishers, New York, 1962), 61
328	The Design of Radar Astronomy Instrumentation	H. G. Weiss	NEREM Record, Boston, Nov. 1961
343	The $(1 - \cos \varphi)$ Radiometer	J. W. McGinn	NEREM Record, Boston, Nov. 1961
344 R	Radiometric Instrumentation at Eight Millimeters	J. W. Meyer J. J. Kirwan D. M. Towle	NEREM Record, Boston, Nov. 1961
347 R	Statistical Mechanics of Dilute Solid Solutions	R. F. Brebrick	J. Appl. Phys. <u>33S</u> , 422 (1962)
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356 R	Isotropic Stress Measurements in Permalloy Films	G. P. Weiss D. O. Smith	J. Appl. Phys. <u>33S</u> , 1166 (1962)
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381	An Electronic Decoder for Bose-Chaudhuri-Hocquenghem Error-Correcting Codes	T. C. Bartee D. I. Schneider	Trans. IRE, PGIT <u>IT-8</u> , S-17 (1962)
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391 R	Digital Techniques in Neuro- electric Data Processing	W. A. Clark	<u>Computer Techniques in EEG</u> <u>Analysis</u> (Elsevier, Amsterdam, 1961), 75
394 R	Superconducting Magnets	S. H. Autler	NEREM Record, Boston, Nov. 1961
396	A Simple Iterative Procedure for the Identification of the Unknown Parameters of a Linear Time Varying Discrete System	H. Kushner	Accepted J. Basic Engineering
423	Scattering from Plasma Cylinders with Radial Variations in Electron Density	C. M. deRidder S. Edelberg	Accepted Proc. Conf. on the Plasma Sheath, Boston, Apr. 1962
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470 R	Keynote: Some Notes on the Technology of Recognition	O. G. Selfridge	Proc. Symp. on Optical Character Recognition, Washington, Jan. 1962
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512	The Niobium-Tin System: Stability Ranges and Superconducting Properties of $\text{Nb}_2\text{Sn}_3$ and $\text{Nb}_3\text{Sn}_2$	T. B. Reed H. C. Gatos W. J. LaFleur J. T. Roddy	Accepted <u>Superconductors</u> (Interscience Publishers, New York)
513	Description of a Computer Program for Pitch Detection	B. Gold	Accepted Proc. Fourth Intl. Cong. on Acoustics, Copenhagen, Aug. 1962
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527	Performance Evaluation Techniques for a Large Aperture Millimeter	V. L. Lynn E. A. Crocker J. W. Meyer	Accepted Proc. Electromagnetic Window Symp., Columbus, June 1962
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581	Mobility Without Vision by Living Creatures Other Than Man (With Special Reference to Insectivorous Bats)	F. A. Webster\$	Proc. Mobility Research Conf., M. I. T., Oct. 1961
583	An Evaluation of Recent Developments in the Field of Learning Machines	O. G. Selfridge	Rec. IRE Intl. Conv., Pt. 4, New York, Mar. 1962
588	Vapor Growth and Doping of Silicon Crystals Using Tellurium as Carrier	S. Fischler	Accepted Proc. Metallurgical Soc. AIME, Philadelphia, Aug. 1962
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626	Visual Pattern Recognition: The Problems and the Promise	O. G. Selfridge	Accepted Proc. Intl. Cong. on Technology and Blindness, New York, June 1962
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654	Stimulated Infrared Emission from Small Glass Fibers	H. A. Bostick	Accepted Proc. Boston Laser Conf., Northeastern Univ., Aug. 1962
660	Rotatable Anisotropy in Negative Magnetostriiction Ni-Fe Films	S. S. Lehrer	Accepted J. Appl. Phys.
662	Crystallographic Transitions in Several Chromium Spinel Systems	A. Wold R. J. Arnott E. Whipple J. B. Goodenough	Accepted J. Appl. Phys.
665	Thermodynamic Self-Consistent Theory of Indirect Exchange in Metals	T. A. Kaplan	Accepted J. Appl. Phys.
666	Magnetic Properties of a Single Crystal of MnP	E. E. Huber, Jr. D. H. Ridgley	Accepted J. Appl. Phys.
669	Atomic Moments and Magnetic Coupling in Cation-Excess Nickel Arsenides	J. B. Goodenough	Accepted J. Appl. Phys.
671	Flux Growth of $\text{NiFe}_2\text{O}_4$ Crystals by the Czochralski Method	W. Kunmann A. Ferretti A. Wold	Accepted J. Appl. Phys.
679	Antiferromagnetic Properties of $\text{NiTiO}_3$	G. S. Heller J. J. Stickler S. Kern A. Wold	Accepted J. Appl. Phys.
680	Drive Current Margins of Magnetic Film Memories	A. H. Anderson T. S. Crowther J. I. Raffel	Accepted J. Appl. Phys.
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692	Phenomena at a Solid-Melt Interface	J. R. O'Connor	Accepted J. Electrochem. Soc.
694	High Power Tube Techniques	G. L. Guernsey	Accepted <u>Advances in Electron Tube Techniques</u> , Vol. II

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			ASTIA No.	<u>Hayden Serial and Prices</u>
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